

EAST Search History

NKS

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|--|------------------|---------|------------------|
| L3 | 556 | ((supersonic or ultrasound or ultrasonic or megasonic or vibrator or oscillator or pizeoelectric\$4) near5 (plate or disc or disk or transmitter or radiator or horn or sonotrode or panel or diaphragm or membrane)) and ((plate or disc or disk or transmitter or radiator or horn or sonotrode or panel or diaphragm or membrane) near5 (edge or peripher\$5 or circumfer\$5 or perimeter or rim or border) near5 (notch\$4 or moat or canal or groov\$4 or channel)) | US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB | OR | ON | 2007/01/10 14:35 |
| L6 | 771 | ((supersonic or ultrasound or ultrasonic or megasonic or vibrator or oscillator or piezoelectric\$4) near5 (plate or disc or disk or transmitter or radiator or horn or sonotrode or panel or diaphragm or membrane)) and ((plate or disc or disk or transmitter or radiator or horn or sonotrode or panel or diaphragm or membrane) near5 (edge or peripher\$5 or circumfer\$5 or perimeter or rim or border) near5 (notch\$4 or moat or canal or groov\$4 or channel)) | US-PGPU B; USPAT; USOCR; EPO; JPO; DERWEN T; IBM_TDB | OR | ON | 2007/01/10 14:35 |

DERWENT- 1990-138120
ACC-NO:

DERWENT- 199018
WEEK:

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TITLE: Ultrasonic hydrodynamic oscillations generator - whose membrane natural frequency in liq. is chosen to be equal to cavitation zone collapse frequency

INVENTOR: NAZARENKO, A F

PATENT-ASSIGNEE: ODESS POLY[ODPO]

PRIORITY-DATA: 1987SU-4261839 (June 15, 1987)

PATENT-FAMILY:

| PUB-NO | PUB-DATE | LANGUAGE | PAGES | MAIN-IPC |
|------------|--------------------|----------|-------|----------|
| SU 1516148 | A October 23, 1989 | N/A | 000 | N/A |

APPLICATION-DATA:

| PUB-NO | APPL-DESCRIPTOR | APPL-NO | APPL-DATE |
|-------------|-----------------|----------------|---------------|
| SU 1516148A | N/A | 1987SU-4261839 | June 15, 1987 |

INT-CL (IPC): B06B001/20

ABSTRACTED-PUB-NO: SU 1516148A

BASIC-ABSTRACT:

The oscillations source for vibrating viscous, corrosive or high temp. liquids, has a body (5), a nozzle (1), a deflector (2) with a notch (3) directed towards the nozzle, and a membrane (4) in the centre clamped on the body perimeter and connected to the deflector. The operation efficiency is increased since the membrane natural frequency in the liq. is chosen to be equal to cavitation zone collapse frequency. The membrane radius (a), its tension (T) per unit of perimeter length, membrane area unit mass (delta), working liq. density (rho), nozzle diameter have following relationships $a/d = 0.116 \sqrt{T/(\delta + (8 \rho a/3\pi))}$ in SI units.

The liq. jet emerging from the nozzle is directed to the deflector and forms a conical surface whose conicity angle is equal to the notch (3) angle. The liq. cone separates the cavitation zone from the surrounding media localising it between the nozzle (1) end and the deflector. With further liq. emerging from the nozzle the pressure in the cavitation zone increases and exceeds the surrounding medium pressure and the jet breaks away from the nozzle.

USE - Can be used for oscillations generating in liqs. Bul.39/ 23.10.89

CHOSEN- Dwg.1/1
DRAWING:

TITLE-TERMS: ULTRASONIC HYDRODYNAMIC OSCILLATING GENERATOR MEMBRANE NATURAL FREQUENCY LIQUID
CHOICE EQUAL CAVITATE ZONE COLLAPSE FREQUENCY

DERWENT-CLASS: P43

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N1990-106947